which systems may be installed in accordance with paragraphs (a) (4) through (7) of this section.

(3) For cargo tanks at least one pound of carbon dioxide shall be available for each 30 cubic feet of the largest cargo tank. The discharge of the required amount of carbon dioxide shall be complete within 5 minutes.

(4) In boiler rooms, the bilges shall be protected by a system discharging principally below the floor plates. Perforated pipe may be used in lieu of discharge nozzles for such systems. The number of pounds of carbon dioxide shall be equal to the gross volume of the boiler room taken to the top of the boilers divided by 36. In the event of an elevated boiler room which drains to the machinery space, the system shall be installed in the engineroom bilge and the gross volume shall be taken to the flat on which the boilers are installed.

(5) In machinery spaces where main propulsion internal combustion machinery is installed, the number of pounds of carbon dioxide required shall be equal to the gross volume of the space taken to the underside of the deck forming the hatch opening divided by 22.

(6) In miscellaneous spaces other than cargo or main machinery spaces the number of pounds of carbon dioxide required shall be equal to the gross volume of the space divided by 22.

(7) Branch lines to the various spaces other than cargo and similar spaces shall be as noted in Table 34.15–90(a)(7). This table is based on cylinders having discharge outlets and siphon tubes of ⅜-inch diameter.

TABLE 34.15–90(A)(7)

Number of cylinders		Nominal pipe size, inches
Over	Not over	
	2	½-standard.
2	4	¾-standard.
4	6	1-extra heavy.
6	12	1¼-extra heavy.
12	16	1½-extra heavy.
16	27	2-extra heavy.
27	39	2½-extra heavy.
39	60	3-extra heavy.
60	80	3½-extra heavy.
80	104	4-extra heavy.
104	165	5-extra heavy.

(b) Installations contracted for on or after November 19, 1952, but prior to January 1, 1962, shall meet the requirements of this paragraph.

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 34.15–5 through 34.15–40 insofar as is reasonable and practicable with the exception that delayed discharges need not be provided for installations made prior to July 1, 1957.

[CGFR 65–50, 30 FR 16694, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15268, Dec. 6, 1966]

Subpart 34.17—Fixed Foam Extinguishing Systems, Details

§ 34.17–1 Application—T/ALL.

(a) Where a fixed foam extinguishing system is installed, the provisions of this subpart with the exception of § 34.17–90, shall apply to all installations contracted for on or after January 1, 1962.

(b) Installations contracted for prior to January 1, 1962, shall meet the requirements of § 34.17–90.

§ 34.17–5 Quantity of foam required—T/ALL.

(a) *Area protected.* (1) For machinery spaces and pumprooms, the system shall be so designed and arranged as to spread a blanket of foam over the entire tank top or bilge of the space protected. The arrangement of piping shall be such as to give a relatively uniform distribution over the entire area protected.

(2) Where an installation is made to protect an oil-fired boiler installation on a flat which is open to or can drain to the lower engineroom or other space, both the flat and the lower space shall be protected simultaneously. The flat shall be fitted with suitable coamings on all openings other than deck drains to properly restrain the oil